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AUTHOR Schere, Richard A.; And Others
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ABSTRACT

A program providing inservice training for preschool personnel (day care or Head Start directors and teachers) in early identification and intervention procedures is described, and two related research studies are cited. In the first, 423 Denver Developmental Screening Tests from 16 preschool centers were analyzed, indicating that approximately one in 10 children were potentially at risk for developmental problems, and that nearly 2% were showing some developmental disturbances (language and fine motor adaptive). The second study examined the attitudes of 72 preschool personnel toward mainstreaming. Findings did not reveal a joint contribution of employment and participation status toward attitudes to mainstreaming. Directors and special education teachers had more favorable attitudes toward mainstreaming than did regular teachers. The inservice program focused on six elements basic to diagnostic-prescriptive teaching: assessment, goal setting, strategy selection, individualization, application, and evaluation. (CL)

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IN-SERVICE TRAINING OF PRESCHOOL PERSONNEL IN EARLY IDENTIFICATION AND INTERVENTION PROCEDURES

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Dissemination Paper Presented on November 13, 1979, Hollywood, Florida at the annual meeting of The National Council of States on In-Service Education.

Eunice Matthew, Ph.D.
Richard A. Schere, Ph.D.
Project Co-Directors
Robert Smith, Ph.D.
Divisional Coordinator
Early Childhood Education
School of Education
Brooklyn College
Irene Impellizzeri
Dean

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Richard A. Schere
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Research & Evaluation
Handouts

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Self-Ratings of Participants

Table One summarized the results of the participants' self-ratings: Twenty participants submitted self-evaluations. They rated themselves on a scale of from 1 to 5. The twenty-three competences were reduced to six competency areas that reflect the procedures of diagnostic-prescriptive teaching methods. The rating scale reflected the following judgments:

1. cannot do very well
2. can do but below average
3. can do as well as most others
4. can do better than most others
5. can do extremely well

Table One

Mean Pre and Post Ratings of Participants' Status in Twenty-Three Target Competences Reduced to Six Competency Areas

Area	No. of Competences	Pre-mean	Post-mean	Difference
Asseesment	4	1.85	4.62	2.77
Goal setting	4	1.91	4.32	2.41
Strategy Selection	3	2.27	4.15	1.88
Individualization	5	2.83	4.03	1.20
Application	4	2.52	4.79	2.27
Evaluation	3	1.03	3.12	2.09

Table Three

Comparison of Post Ratings of Competences By Participants versus Field-Site Supervisors

Area	No. of Competence	Participants' Post Mean	Supervisors' Post Mean	Difference
Assessment	4	4.62	4.08	0.54
Goal Setting	4	4.32	4.33	-0.01
Strategy Selection	3	4.15	4.13	0.02
Individualization	5	4.03	4.10	-0.07
Application	4	4.79	4.01	-0.78
Evaluation	3	3.12	2.83	0.29

*Pearson Product Moment Correlation between Participants' and Supervisors' Post Means is .82, t (4) = 4.51, $p < .02$

Report on Project Research Studies

I. Denver Developmental Screening of Day Care and Head Start Pre-Schoolers

Purpose of Study:

The purpose of the study was to (1) determine the approximate percentage of normal, questionable, and abnormal pre-schoolers who presently are serviced by Brooklyn Day Care and Head Start Centers, and to (2) analyze the nature of the difficulties of the children found to be "at risk."

Description and Discussion of Study:

A total of 423 Denver Developmental Screening Tests were collected from sixteen centers and scored in accordance with the instructions provided in the manual. Three outcomes are possible for each protocol: (a) normal, (b) questionably at risk, and (c) abnormal, at risk.

As an initial check on the sampling, chi-square test was performed comparing the frequencies of normal, questionable, and abnormal Denver results across the sixteen centers. The χ^2 (30) = 101.27, $p < 10^{-8}$, clearly indicated differential rates of abnormalities among some of the centers. This was followed with post-hoc analyses in an effort to identify particular centers with "unusual" rates of abnormal Denver results. Each of the fifteen centers was contrasted, one at a time, with the pool of the remaining fifteen centers by a post-hoc chi-square test. The significance of the post-hoc χ^2 was evaluated using Fisher's modified least significant differences procedure, for a set of 16 contrasts, by computing an adjusted $p^1 = 1 - (1 - p)^{16}$. for each of the sixteen tests. The results indicated four centers which had distributions of Denver results which differed from the remaining pool of centers ($p < .02$ in each case). In each of these four centers, the rates for questionable and/or abnormal protocols was higher than in the remaining centers (being 32%, 38%, 80%, and 100%). We concluded that such high rates reflected biased sampling procedures in those four centers, and did not estimate the actual rate of abnormality in them. They were excluded from further analyses of the Denver results, leaving a total of 363 protocols for analysis.

The frequencies of normal, questionable, and abnormal protocols were again compared among the remaining twelve centers. The χ^2 (22) = 18.14 was not significant ($p > .69$). Table Four gives the marginal distribution of outcomes for these twelve centers combined.

These results show that approximately one in ten of the youngsters sampled in these day care centers are potentially at risk for developmental problems, and nearly 2% seem to be showing some fairly serious developmental disturbance.

The Denver is divided into four sections, and Table Five provides an index of the developmental delay in each of four areas for the 44 questionable and abnormal protocols.

From this table, it is clear that the language section presented the greatest difficulty for these children at risk, with 61% of them failing one or more items which are passed by at least 90% of their age-mates (failed with developmental delay.) Similarly, 52% of these at-risk children failed one or more items (with delay) in the fine motor-adaptive section of the Denver.

These at risk children looked least disturbed on the personal-social section. This personal-social section contains fewer items suitable for older children, so this result may partly reflect an insensitivity of the instrument to problems in the personal-social area for four year olds. However, the personal-social items at this age place an emphasis on dressing oneself. Perhaps even children mildly at risk are encouraged and rewarded for dressing themselves—while they may not receive comparable attention for asking questions, attempting to draw, or attempting to improve gross coordination by jumping, hopping, or playing with balls.

As a next question, we were interested to know whether these children at risk were failing particular items in each section out of the usual order, or was their performance simply reflecting an overall developmental lag? To answer this question, and for each item, we compared the proportion of normal protocols and the proportion of questionable plus abnormal protocols in which the Denver item was failed. The results are shown in Table Six. The general impression this table gives is that the item difficulties correlate highly between normal and at risk protocols, suggesting the children at risk are showing a general developmental lag on the Denver rather than some peculiar and specific deficits. For each section, the product-moment correlations between normal and at risk item difficulties are significant and large.

Table Summaries of Results:

Table Four

Proportion of Protocols At Risk on the Denver Developmental Screening Test

Result	Frequency	Percent
Normal	319	87.9
Questionable	37	10.2
Abnormal	7	1.9
Total	363	100.0

Table Five

Frequencies of Item Failures With Delays For Sections of the Denver Developmental Screening Test

Number of Items Failed with Developmental Delay	Section: Personal Social f	Personal Social %	Fine Motor Adaptive f	Fine Motor Adaptive %	Language f	Language %	Gross Motor f	Gross Motor %
0	34	77.3	21	47.7	17	38.6	28	63.6
1	4	9.1	15	34.1	9	20.5	7	15.9
2	4	9.1	7	15.9	15	34.1	3	6.8
3+	2	4.6	1	2.3	3	6.8	6	13.6

Note: Each column frequency distribution represents the 44 protocols identified as questionable or abnormal in Table Four

Table Six

Item Difficulties for Normal and At Risk Protocols on the Denver Developmental Screening Test

Item	Personal Social norm	Personal Social Q&Abn	Fine Motor Adaptive norm	Fine Motor Adaptive Q&Abn	Language norm	Language Q&Abn	Gross Motor norm	Gross Motor Q&Abn
1-6	0	0	0	0	0	0	0	0
7	0	2.3	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0
9	0	0	0	0	0	2.3	0	0
10	0	0	0	0	0	2.3	0	0

Table Six (continued)

Item	Personal Social		Fine Motor Adaptive		Language		Gross Motor	
	Norm	Q&Abn	Norm	Q&Abn	Norm	Q&Abn	Norm	Q&Abn
11	0	0	0	0	.3	2.3	0	0
12	0	0	0	0	1.3	13.6	0	0
13	0	0	0	0	0	9.1	0	0
14	.3	2.3	0	0	5.6	25.0	0	0
15	.3	9.1	0	0	5.3	22.7	0	6.8
16	0	2.3	0	0	8.8	31.8	0	4.6
17	0	0	.3	0	21.3	52.3	0	6.8
18	.9	9.1	0	0	14.7	45.5	0	0
19	.3	11.4	.3	0	26.6	54.5	0	0
20	3.1	6.8	0	11.4	53.9	75.0	0	2.3
21	0	2.3	2.5	4.6	72.1	86.4	4.1	6.8
22	5.6	20.5	.9	20.5			0	2.3
23	8.2	20.5	3.8	13.6			.3	4.6
24			3.1	13.6			.3	9.1
25			13.5	38.6			1.9	13.6
26			10.3	15.9			6.3	29.5
27			21.6	40.9			5.0	11.4
28			26.3	52.3			21.0	34.1
29			38.9	70.5			22.6	29.5
30			48.9	72.7			26.0	52.3
31							41.1	59.1
r	.87		.96		.93		.95	
t	11.45*		27.85*		16.36*		22.88*	

*$p < 10^{-9}$

Note: Table entries are percent failing the item. The normal columns are based on 314 respondents, and the Questionable & Abnormal columns are based on 44 questionable plus abnormal protocols.

II. Attitudes of Preschool Personnel Towards Mainstreaming

Purpose of Study"

The purpose of this study was to explore attitudes of preschool personnel towards mainstreaming with regard to the following specific questions: (1) Did participation in the project correlate with more favorable attitudes towards mainstreaming? (2) Did one's occupational status at the preschool agency (directors, special education teacher, or regular teacher) influence one's attitude towards mainstreaming?

Description and Discussion of Study:

The Mandell Attitude Toward Mainstreaming Inventory has been collected from 72 individuals, 30 of whom were participating in the training program, and 42 of whom were not. These respondents were asked to classify their employment as either a principal (15 cases), a special education teacher (9 cases), or a regular teacher (45 cases); three individuals did not respond to the employment item.

Three hypotheses had been advanced about the results on the Mandell. Firstly, it was expected that attitudes toward mainstreaming would be jointly influenced by occupational status and by being a participant in the training program. Secondly, it was expected that participants generally would have more favorable attitudes toward mainstreaming than non-participants. Finally, it was expected that special education teachers and principals would generally have more favorable attitudes toward mainstreaming than regular classroom teachers.

These three questions were tested by 21 analyses of variance, one analysis on each of the 20 items in the Mandell plus one analysis on the mean of the items (with some item scores reflected so low scores reflected acceptance of mainstreaming.) The variance was partitioned into a main effect for Participant-Nonparticipant status, a main effect for Employment (principal, special education teacher, regular teacher, or unspecified), and a two-way interaction between the Participant x Employment dimensions.

The first question--differential attitudes as a joint function of Employment and Participation status--is answered by the Participant x Employment interactions. Of the 21 analyses of variance, none revealed any significant interaction. There is no evidence for a joint contribution as hypothesized.

The second question--participants will have more favorable attitudes than nonparticipants--was answered by a contrast on the Participant main effect in each analysis of variance, one-tailed t tests being computed. Of these 21 tests, only a single test was significant at the .05 level and the composite score showed only a trend in favor of the hypothesis ($p < .09$, one-tailed.) Thus we are <u>not</u> able to confidently conclude that participants have more favorable attitudes than non-participants.

The third question--principals and special education teachers would look more favorably on mainstreaming than regular classroom teachers--was

answered by a contrast on the Employment main effect in each analyses of variance, again with one-tailed t tests being computed. The results rejected the null hypotheses ($p < .05$, one-tailed) in 6 of the 21 tests (including the composite score), and trends appeared on two more items. Of the 21 tests, the means differed in the hypothesized direction in 17 cases. Special education teachers and principals do seem to have more favorable attitudes about mainstreaming than regular classroom teachers. The items, mean scores, and significance tests are show in Table Seven. A copy of the Mandell is provided for reference after Tables.

Table Seven

Group Means for the Mandell Attitude Toward Mainstreaming Inventory

Item	Special Education	Principal	Regular Teacher	t	p
1	2.44	2.80	2.50	.406	.343
2	4.22	3.47	3.00	3.016	.002*
3	3.22	3.27	2.84	1.336	.093
4	3.67	3.73	3.47	.926	.179
5	3.00	3.53	3.18	.352	.363
6	2.33	2.50	2.64	.936	.176
7	1.56	2.20	2.29	2.185	.016*
8	4.33	3.80	3.66	1.560	.062
9	2.67	2.58	2.66	.121	.452
10	2.89	3.00	2.93	.063	.475
11	3.78	3.60	2.66	4.096	.000*
12	2.22	3.00	2.44	.640	.262
13	3.00	2.13	2.55	-.086	.932
14	2.78	2.36	2.48	-.377	.707
15	2.89	3.14	3.00	-.058	.954
16	3.89	3.79	3.25	2.210	.015*
17	4.33	4.29	4.18	.755	.226
18	2.33	2.33	2.51	.764	.224
19	2.11	3.00	2.66	-.382	.703
20	1.67	2.20	2.47	2.560	.006*
Composite	2.63	2.61	3.00	2.156	.017*

Note: Contrast weights have been selected for each item to make the hypothesized t value positive. One-tailed probabilities are reported except where t is negative, in which case two-tailed probabilities are reported.

MANDELL ATTITUDE TOWARD MAINSTREAMING INVENTORY

OPINIONNAIRE

Center or School_____

Are you employed as a _____principal _____special education teacher _____regular teacher

For the purpose of this study, the phrase "mildly educationally handicapped" refers to those children diagnosed as learning disabled, emotionally disturbed, and educable mentally retarded.

Please respond to ALL items with regard to how you feel, not to how you think you should feel. Please circle your responses.

1. The special education teacher is better qualified than the regular classroom teacher to teach mildly educationally handicapped children.

   strongly agree | agree | uncertain | disagree | strongly disagree

2. Because the regular teacher already has too many responsibilities, she should not be asked to be responsible for teaching mildly educationally handicapped children.

   strongly agree | agree | uncertain | disagree | strongly disagree

3. The regular teacher does not have enough time to work daily with an educationally handicapped child in her classroom.

   strongly agree | agree | uncertain | disagree | strongly disagree

4. Mildly educationally handicapped children cannot develop their academic skills in a regular classroom.

   strongly agree | agree | uncertain | disagree | strongly disagree

5. Children with average or above average intelligence and who have emotional problems should be taught in a special education class.

   strongly agree | agree | uncertain | disagree | strongly disagree

6. The educational needs of children with below average mental abilities can be met by the regular teacher.

   strongly agree | agree | uncertain | disagree | strongly disagree

7. The regular teacher could teach the mildly educationally handicapped child if she had guidance from a resource teacher.

strongly agree | agree | uncertain | disagree | strongly disagree

8. Putting mildly educationally handicapped children in regular classes is an administrative technique for reducing teacher personnel.

strongly agree | agree | uncertain | disagree | strongly disagree

9. Children with average or above average intelligence and diagnosed as having learning problems should be placed in the regular class.

10. Mildly educationally handicapped children learn more in a special education classroom than in a regular classroom.

strongly agree | agree | uncertain | disagree | strongly disagree

11. Regular classroom teachers do not have the training to teach mildly educationally handicapped children.

strongly agree | agree | uncertain | disagree | strongly disagree

12. Special education classes are better equipped than regular classes for letting the mildly educationally handicapped child work at his own pace.

strongly agree | agree | uncertain | disagree | strongly disagree

13. Many mildly educationally handicappped children are not diagnosed properly and should not be placed in a special education class.

strongly agree | agree | uncertain | disagree | strongly disagree

14. The regular teacher can handle a child with average intelligence and an emotional problem in the regular class.

strongly agree | agree | uncertain | disagree | strongly disagree

15. Academic progress of the mildly educationally handicapped child is not dependent upon either special class or regular class placement.

strongly agree | agree | uncertain | disagree | strongly disagree

16. Parents of mildly educationally handicapped children would rather have their children in a special education class than in a regular class.

strongly agree | agree | uncertain | disagree | strongly disagree

17. There is too much money being spent on training regular teachers how to teach mildly educationally handicapped children.

strongly agree	agree	uncertain	disagree	strongly disagree

18. Children with average intelligence and who have learning problems can have their academic needs met in the regular classroom.

strongly agree	agree	uncertain	disagree	strongly disagree

19. The special education class is better arranged to meet the needs of the educationally handicapped child than the regular class is.

strongly agree	agree	uncertain	disagree	strongly disagree

20. The regular classroom teacher is capable of developing the social skills and academic abilities of mildly educationally handicapped children.

strongly agree	agree	uncertain	disagree	strongly disagree

THANK YOU VERY MUCH FOR YOUR PARTICIPATION!

IN-SERVICE TRAINING OF PRESCHOOL PERSONNEL IN EARLY IDENTIFICATION AND INTERVENTION PROCEDURES

Dissemination Paper Presented by Richard A. Schere, Ph.D. Project Co-Director, on Nov. 13, 1979, Hollywood, Florida, at the annual meeting of The National Council of States on In-Service Education.

Eunice Matthew, Ph.D.
Richard A. Schere, Ph.D.
Project Co-Directors
Robert Smith, Ph.D.
Divisional Coordinator
Early Childhood Education
School of Education
Brooklyn College
Irene Impellizzeri
Dean

November 13, 1979

Ladies and Gentlemen,

It is indeed a great pleasure for me to address this afternoon participants at this annual meeting of the National Council of States on In-Service Education. We will be discussing with you a program providing in-service training of pre-school personnel in early identification and intervention procedures. It is our hope that our discussion will facilitate those of you in different sections of our country who are struggling with the moral and legal obligations of providing appropriate education for handicapped pre-schoolers in the "least restrictive environment" as is mandated under the provisions of Public Law 94-142.

We view our project which is funded by the Bureau of the Handicapped, Department of Health, Education and Welfare as critically important because of its focus on pre-schoolers. As you know, research studies, including the classic Milwaukee Project of Heber and Gerber (1973, 1975) have indicated that the problems of handicapped children can be dramatically reduced if intervention is begun in their pre-school years. In the words of James Gallagher in his 1968 address before Congress, "there is probably no sounder proposition in education than the earlier the child is educated, the greater the return for energy spent. This is particularly true of the handicapped child whose problems in early development can multiply upon one another and create even more serious problems before the youngster is ready to enter the traditional school program." We should mention further that at the pre-school age handicaps are tolerated by non-handicapped children rather well and thus both handicapped and non-handicapped children improve their moral fibre as well as their prognosis for living effectively together.

For these reasons, the government has established higher funding for handicapped preschoolers than for older handicapped children. Yet, despite all this, throughout our nation, many handicapped pre-schoolers are not being served. The reason they are not served is sadly financial; local boards of education and committees on the handicapped fear that, despite higher federal allowances for preschoolers, their identification will require programs and supportive services they cannot afford. Thus those handicapped children who have the most to gain from intervention are in many places being ignored and denied.

In New York, we have taken to the courts to rectify this tragic obstacle. We have developed a process whereby children are referred from their pre-school agencies to free comprehensive hospital clinics. If evaluation yields a diagnosis of "handicap" then papers are filed through the family court that mandate signature by the committee on the Handicapped. Papers then can be submitted to Washington for the funds to which the child is entitled. This procedure which is cumbersome is in its infancy, and, as you can tell, depends heavily on the concern and skill of pre-school personnel to work with handicapped children and their families--which of course brings us to our project.

Personnel selected to participate in our project are Day Care or Head Start directors and teachers. Each agency is encouraged to send a team so that director and teacher can work together with regard to project objectives. Participants receive a stipend that more than covers their Brooklyn College tuition as well as course credit that counts toward their Master's degree in Early Childhood or Special Education.

As indicated in Table One of your handout, the project attempts to develop skill in twenty-three target competences. These twenty-three competences pertain to early identification and early intervention procedures as can be

organized according to six elements basic to diagnostic-prescriptive teaching procedure which is one philosophic underpinning of the project. These six elements are: (1) assessment, (2) goal setting, (3) strategy selection, (4) individualization, (5) application, and (6) evaluation.

In addition to our belief on the diagnostic-prescriptive teaching orientation, our project is rooted in certain philosophical assumptions. These beliefs can be summarized as follows:

1. We believe that early identification and intervention with handicapped "at risk" preschoolers can dramatically improve their prognosis.
2. We believe that all preschoolers are entitled by moral right to be afforded the protection of PL 94-142 without regard to the politics of finance.
3. We believe that educational rather than medical variables should be the frame of reference for organizing the preschool experience of young children.
4. We believe that handicapped and "at risk" preschoolers can be helped best within the mainstream unless their handicap is so severe that a mainstream program presents a danger to them or to their children.
5. We believe that non-handicapped children will benefit from early intervention with handicapped children.
6. We believe that these stated values are concordant with research studies and the stated concepts of Public Law 94-142 and federal policy.
7. We believe that Day Care personnel represent a concerned and competent professional group quite responsive to in-service training described in the proposal.
8. We believe that personnel on-training for certifications and positions can and should be trained at least in part on-site and provide additional direct service to children.

As illustrated in Figure One of your handout, we attempt to develop these competences by involving participants in a one year program that provides intensive teacher training at the college and job-site supervision. In the first semester, participants meet weekly for three hour sessions and complete seven modules. The content of these seven modules are indicated in Figure two of your handout. While involved in completing these seven intensive training modules,

participants are involved in completing under supervision projects on-site that apply the competences being developed through the intensive training. These projects are described in Figure three.

In the second semester, emphasis is placed upon work on-site. Supervision is intensified and participants complete seven projects that are described in Figure four. At the college, participants attend monthly 3 hour seminars, complete two additional modules (one relating to evaluating the progress of their "at risk" children; the second relating to evaluating their own progress in mastering the target competences), and receive help with the problems they are confronting as they complete their projects on the job. Please refer to Figure five of your hand-out.

In order to provide you with a clearer picture of the project, your hand-out also includes semester one's specific curriculum for the intensive training modules as well as a few of the training materials employed. As you can see from the information given in the hand-out, the project provides direct service to children even though its primary purpose is in-service personnel preparation. Another philosophical underpinning of the project is that personnel preparation that involves supervised on-site application in the service of children improves the quality of the personnel preparation. We have, at other conferences, referred to this concept as "synergy in special education" and we believe that many persons engaged in developing the professional skills they need for various positions and certifications should be involved in helping to service and to individualize programs for children in need. In a period of fiscal difficulty the more effective use this often untapped service of manpower can indeed contribute to innovation in a time of austerity. In terms of this project direct service is provided to children as follows:

1. At least one class of pre-schoolers at each agency is screened with the Denver Developmental Screening Test so that children demonstrating "developmental delay" can be identified.

2. These identified "at risk" children are further studied through informal assessment procedures so that their cognitive strengths and weaknesses as well as pertinent medical and emotional characteristics can be determined.

3. On the basis of this more in-depth study, individual education programs are prepared.

4. I.E.P.'s are carried out on-site under supervision and pre and post evaluation data is collected.

5. I.E.P.'s are carried out on-site under supervision as part of the overall "mainstream" program.

6. As I.E.P.'s are being carried out, referrals to appropriate clinics and agencies are being made.

7. As are required of I.E.P.'s, the parents of the children "at risk" are consulted and hopefully cooperate with the preschool faculty.

8. In concordance with the principles of data based instruction, evaluation of each child's progress is made toward the end of the project year, and I.E.P.'s are revised.

The project also engages in evaluation of its effectiveness. The progress of the participants in the twenty-three target competences are measured as follows:

1. Participants rate themselves on each competence both before and after participation in the project.

2. Field-site supervisors rate each participant in the same twenty-three target competences.

3. Products reflecting selected competences are collected (i.e. learning profiles, I.E.P.'s, etc.) and are evaluated on the basis of pre-determined criteria.

The treatment of the data has in the three years of our project varied, but one illustration is this table (slide one) that compares the post ratings of competence by participants to the post ratings done by the field-site supervisors. As you can see, the Pearson Product Moment Correlation between Participants' and Supervisors' Post means is .82 $t(4)=4.51$, yielding a p of .02.

More precise analysis of the evaluation data on words indicated the following:

1. Participants perceive themselves as improving in the competency areas considerably from project start to culmination.

   a. Participants perceived their competences as below average in all six competency areas at the beginning of the project and as better than average at the project's end (except for the one area, "Evaluation.")

   b. Participants perceived growth in assessment, goal setting, application, evaluation, strategy selection, and individualization in that order of degree of improvement.

   c. However, participants improved at least one self-rating in all six competency areas.

   d. Participants, prior to the project, perceived themselves as stronger in individualization, application, strategy selection, goal setting, assessment, and evaluation in that order of relative strength.

2. Field-site supervisors perceived participants at the end of the project as being above average on all twenty-three target competences with the exception of the following:

   a. Participants were perceived as achieving average competence in:

      1. The ability to follow basic principles of scientific method to increase the probability that informal assessment conclusions are correct: (a) the principle of recurring themes, (b) the principle of predicting other measures during the on-going assessment, and (c) the principle of varying the difficulty of single variables being measured. (I,4)

      2. The ability to demonstrate mastery of behavioral charting and contracting for purposes of individualizing instruction. (IV,5)

      3. The ability to provide rationale for separate acts of application in order to guarantee that performance is based upon knowledge and thus has a higher probability of transferring to a variety of contexts. (V,4)

   b. Participants were perceived as achieving below average competence in:

      1. The ability to demonstrate mastery of simple research design and treatment procedures. (VI,1)

      2. The ability to analyze research results in order to identify specific obstacles to attainment of specified goals. (VI,2)

3. The evaluation by field-site supervisors compared favorably to the self-evaluation of the participants.

   a. There were no differences of even one rating between supervisors and participants. (Pearson Product Moment Correlation .82, $p < .02$)

   b. Supervisors and participants differed most in their evaluations of competency

in (1) application (mean difference 0.78) and (2) assessment (mean difference 0.54.)

c. In both cases, the supervisors' ratings were lower than self-ratings by participants.

As part of the project a number of research projects were conducted to help guide our efforts. The results of these projects are provided in your second handout entitled research. In one study, we analyzed 423 Denver Developmental Screening Tests from sixteen preschool centers. We learned that about one in ten youngsters were potentially "at risk" for developmental problems and that nearly two per cent were showing some fairly serious developmental disturbances. The kinds of developmental delay manifested were (1) language and (2) fine motor adaptive in that order. Clinical data indicated that a high number of children with emotional disturbances were present in the preschool centers (perhaps about one percent) but that the Denver was not sensitive to emotional difficutlies.

A second study explored the attitudes of preschool personnel toward mainstreaming. We were interested in learning whether attitudes toward mainstreaming became more favorable as a consequence of (1) being a participant in our project, and (2) one's role at the preschool agency (director, special education teacher, regular teacher.) With regard to question one, we learned unfortunately that there was only a trend (p-.09) that participation in the project correlated with more favorable attitudes towards mainstreaming. With regard to question two, we learned that directors and special education teachers had more favorable attitudes toward mainstreaming than did regular teachers. It will apparently require time and contact, not just a one year project to efficiently effect affect.

At this point we would like to pause for questions and comments. Please ask first specific questions you may have about our project. Then, consider how our approach might be of aid to you as you confront the problem of educating handicapped preschoolers. Thank you very much for your kind attention.